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Dated: January 12, 2006

Signature: _____

(Debra J. Milasincic)

Docket No.: UMY-041
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Tariq M. Rana

Application No.: 10/715229

Confirmation No.: 5733

Filed: November 17, 2003

Art Unit: 1635

For: ALLELE-TARGETED RNA
INTERFERENCE

Examiner: K. Chong

INFORMATION DISCLOSURE STATEMENT (IDS)

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

! 01/18/2006 HDEMESS1 00000064 120080 10715229
! 01 FC:1806 180.00 DA

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed more than three months after the U.S. filing date, after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Office Action or Notice of Allowance (37 CFR 1.97(c)).

Applicant has not submitted a copy of the cited U.S. patent and U.S. patent applications as required by 37 CFR 1.98(a)(2)(i), amended October 2004, as the U.S. Patent and Trademark Office has waived this requirement for all U.S. patent applications. Applicant submits herewith copies of non-patent references in accordance with 37 CFR 1.98(a)(2).

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information

as defined in 37 CFR 1.56(a) exists. In accordance with 37 CFR 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

Please charge our Deposit Account No. 12-0080 in the amount of \$180.00 covering the fee set forth in 37 CFR 1.17(p). The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 12-0080, under Order No. UMY-041. A duplicate copy of this paper is enclosed.

Dated: January 12, 2006

DJM/JAM/mch

Respectfully submitted,

By

Debra J. Milasincic

Registration No.: 46,931

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Attorney/Agent For Applicant



PTO/SB/08a/b (07-05)

Approved for use through 07/31/2006. OMB 0651-0031

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Substitute for form 1449A/B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				Complete if Known	
				Application Number	10/715229-Conf. #5733
				Filing Date	November 17, 2003
				First Named Inventor	Tariq M. RANA
				Art Unit	1635
				Examiner Name	K. Chong
Sheet	1	of	3	Attorney Docket Number	UMY-041

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	A1*	US-6,506,559	01-14-2003	Fire et al.	
	A2*	US-20020012968-A1	01-31-2002	Carroll et al.	
	A3*	US-20040171030-A1	09-02-2004	Baker et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS				
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²	
	C1	Burgess, Kevin, et al., "Photolytic Mass Laddering for Fast Characterization of Oligomers on Single Resin Beads," <i>J. Org. Chem.</i> , Vol. 62:5662-5663 (1997)		
	C2	Caplen, Natasha J., et al., "Specific inhibition of gene expression by small double-stranded RNAs in invertebrate and vertebrate systems," <i>PNAS</i> , Vol. 98(17):9742-9747 (2001)		
	C3	Chiu, Y.L., et al., "RNAi in human cells: basic structural and functional features of small interfering RNA," <i>Mol. Cell</i> , Vol. 10:549-561 (2002)		
	C4	Duprez, Laurence, et al., "Pathology of the TSH Receptor," <i>Journal of Pediatric Endocrinology & Metabolism</i> , Vol. 12:295-302 (1999)		
	C5	Elbashir, S.M., et al., "Duplexes of 21-nucleotide RNAs mediate RNA interferences in cultured mammalian cells," <i>Nature</i> , Vol. 411:494-498 (2001)		
	C6	Elbashir, Sayda M., et al., "RNA interference is mediated by 21- and 22-nucleotide RNAs," <i>Genes & Development</i> , Vol. 15:188-200 (2001)		
	C7	Elbashir, S.M., et al., "Functional anatomy of siRNAs for mediating efficient RNAi in Drosophila melanogaster embryo lysate," <i>Embo. J.</i> , Vol. 20:6877-6888 (2001)		
	C8	Francis, Ross, et al., "aph-1 and pen-2 Are Required for Notch Pathway Signaling, γ -Secretase Cleavage of β APP, and Presenilin Protein Accumulation," <i>Developmental Cell</i> , Vol. 3:85-97 (2002)		
	C9	Fressinaud, Edith, et al., "Molecular Genetics of Type 2 von Willebrand Disease," <i>International Journal of Hematology</i> , Vol. 75:9-18 (2002)		
	C10	Gualberto, Antonio, et al., "An oncogenic form of p53 confers a dominant, gain-of-function phenotype that disrupts spindle checkpoint control," <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 95:5166-5171 (1998)		
	C11	Hannon, Gregory J., "RNA interference," <i>Nature</i> , Vol. 418:244-251 (2002)		
	C12	Hirota, Seiichi, et al., "Gain-of-function mutation at the extracellular domain of KIT in gastrointestinal stromal tumours," <i>Journal of Pathology</i> , Vol. 193:505-510 (2001)		
	C13	Hirota, Seiichi, et al., "Gain-of-Function Mutations of c-kit in Human Gastrointestinal Stromal Tumors," <i>Science</i> , Vol. 279:577-580 (1998)		
	C14	Hixon, M.L., et al., "Gain of function properties of mutant p53 proteins at the mitotic spindle cell cycle checkpoint," <i>Histology and Histopathology</i> , Vol. 15:551-556 (2000)		
	C15	Ho, L.W., et al., "The molecular biology of Huntington's disease," <i>Psychological Medicine</i> , Vol. 31:3-14 (2001)		
Examiner Signature				Date Considered

Substitute for form 1449A/B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				Complete if Known	
				Application Number	10/715229-Conf. #5733
				Filing Date	November 17, 2003
				First Named Inventor	Tariq M. RANA
				Art Unit	1635
				Examiner Name	K. Chong
Sheet	2	of	3	Attorney Docket Number	UMY-041

C16	Holmes, Christopher P., et al., "Strategies for Combinatorial Organic Synthesis: Solution and Polymer-Supported Synthesis of 4-Thiazolidinones and 4-Metathiazanones Derived from Amino Acids," <i>J. Org. Chem.</i> , Vol. 60:7328-7333 (1995)	
C17	Hutvágner, György, et al., "RNAi: nature abhors a double-strand," <i>Curr. Opin. Genet. Dev.</i> , Vol. 12:225-232 (2002)	
C18	Kopp, P., "Human Genome and Diseases: Review, The TSH receptor and its role in thyroid disease," <i>Cell, Mol. Life Sci.</i> , Vol. 58:1301-1322 (2001)	
C19	Kosaki, Kenjiro, et al., "PTPN11 (Protein-Tyrosine Phosphatase, Nonreceptor-Type 11) Mutations in Seven Japanese Patients with Noonan Syndrome," <i>The Journal of Clinical Endocrinology & Metabolism</i> , Vol. 87(8):3529-3533 (2002)	
C20	Lania, Andrea, et al., "G protein mutations in endocrine diseases," <i>European Journal of Endocrinology</i> , Vol. 145:543-559 (2001)	
C21	Luyten, I., et al., "Hybridization properties of base-modified oligonucleotides within the double and triple helix motif," <i>Eur. J. Med. Chem.</i> , Vol. 33:515-576 (1998)	
C22	McManus, Michael T., et al., "Gene Silencing in Mammals by Small Interfering RNAs," <i>Nature</i> , Vol. 3:737-747 (2002)	
C23	Müller, Jörn, et al., "Severe testotoxicosis phenotype associated with Asp ⁵⁷⁸ →Tyr mutation of the lutrophin/choriogonadotrophin receptor gene," <i>J. Med. Genet.</i> , Vol. 35:340-341 (1998)	
C24	Nykänen, A., et al., "ATP requirements and small interfering RNA structure in the RNA interference pathway," <i>Cell</i> , Vol. 107:309-321 (2001)	
C25	Oldridge, Michael, et al., "Dominant mutations in ROR2, encoding an orphan receptor tyrosine kinase, cause brachydactyly type B," <i>Nature Genetics</i> , Vol. 24:275-278 (2000)	
C26	Parish, S., et al., "Functional anatomy of a dsRNA trigger: differential requirement for the two trigger strands in RNA interference," <i>Mol. Cell.</i> , Vol. 6:1077-1087 (2000)	
C27	Puttaparthi, Krishna, et al., "Disease Progression in a Transgenic Model of Familial Amyotrophic Lateral Sclerosis Is Dependent on Both Neuronal and Non-Neuronal Zinc Binding Proteins," <i>The Journal of Neuroscience</i> , Vol. 22(20):8790-8796 (2002)	
C28	Saenger, W., ed., "Principles of Nucleic Acid Structure," New York, Springer-Verlag (1984)	
C29	Sahin-Tóth, Miklós, et al., "Gain-of-Function Mutations Associated with Hereditary Pancreatitis Enhance Autoactivation of Human Cationic Trypsinogen," <i>Biochemical and Biophysical Research Communications</i> , Vol. 278:286-289 (2000)	
C30	Sharp, Phillip A., "RNA interference - 2001," <i>Genes & Development</i> , Vol. 15:485-490 (2001)	
C31	Sijen, T., et al., "On the role of RNA amplification in dsRNA-triggered gene silencing," <i>Cell</i> , Vol. 107:465-476 (2001)	
C32	Simon, E.S., et al., "Creutzfeldt-Jakob Disease Profile in Patients Homozygous for the PRNP E200K Mutation," <i>Ann Neurol</i> , Vol. 47:257-260 (2000)	
C33	Taylor, J. Paul, et al., "Toxic Proteins in Neurodegenerative Disease," <i>Science</i> , Vol. 296:1991-1995 (2002)	
C34	Tuschl, Thomas, et al., "Targeting mRNA degradation by double-stranded RNA in vitro," <i>Genes & Development</i> , Vol. 13:3191-3197 (1999)	
C35	Tuschl, Thomas, et al., "Small Interfering RNAs: A Revolutionary Tool for the Analysis of Gene Function and Gene Therapy," <i>molecular interventions</i> , Vol. 2(3):158-167 (2002)	
C36	Wianny, Florence, et al., "Specific interference with gene function by double-stranded RNA in early mouse development," <i>Nature Cell Biology</i> , Vol. 2:70-75 (2000)	
C37	Zuccato, Chiara, et al., "Loss of Huntingtin-Mediated BDNF Gene Transcription in Huntington's Disease," <i>Science</i> , Vol. 293:493-498 (2001)	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ²Applicant is to place a check mark here if English language Translation is attached.

Examiner Signature		Date Considered	
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1762

PTO/SB/21 (09-04)

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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	10/715229-Conf. #5733
	Filing Date	November 17, 2003
	First Named Inventor	Tariq M. RANA
	Art Unit	1635
	Examiner Name	K. Chong
Total Number of Pages in This Submission	Attorney Docket Number	UMY-041

ENCLOSURES (Check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Return Receipt Postcard PTO form SB/08 Certificate of Mailing Copies of Thirty-seven (37) References
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm Name	LAHIVE & COCKFIELD, LLP		
Signature			
Printed name	Debra J. Milasincic		
Date	January 12, 2006	Reg. No.	46,931

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Effective on 12/08/2004. Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818). FEE TRANSMITTAL For FY 2005		Complete if Known Application Number 10/715229-Conf. #5733 Filing Date November 17, 2003 First Named Inventor Tariq M. RANA Examiner Name K. Chong Art Unit 1635 Attorney Docket No. UMY-041	
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27			
TOTAL AMOUNT OF PAYMENT	(\$)	180.00	

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☒ Deposit Account Deposit Account Number: 12-0080 Deposit Account Name: Lahive & Cockfield, LLP

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, except for the filing fee
☒ Charge any additional fee(s) or underpayment of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayments

FEE CALCULATION**1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

<u>Total Claims</u>	<u>Extra Claims</u>	<u>Fee (\$)</u>	<u>Fee Paid (\$)</u>	<u>Multiple Dependent Claims</u>
_____	_____	_____	_____	<u>Fee (\$)</u>
_____	_____	_____	_____	<u>Fee Paid (\$)</u>

<u>Indep. Claims</u>	<u>Extra Claims</u>	<u>Fee (\$)</u>	<u>Fee Paid (\$)</u>
_____	_____	_____	_____

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

<u>Total Sheets</u>	<u>Extra Sheets</u>	<u>Number of each additional 50 or fraction thereof</u>	<u>Fee (\$)</u>	<u>Fee Paid (\$)</u>
_____	_____	_____	_____	_____

4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)	
Other (e.g., late filing surcharge): 1806 Submission of an Information Disclosure Statement	180.00

SUBMITTED BY			
Signature	Registration No. (Attorney/Agent)	46,931	Telephone (617) 227-7400
Name (Print/Type)	Debra J. Milasincic		Date January 12, 2006

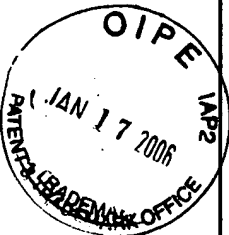
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Application No. (if known): 10/715229

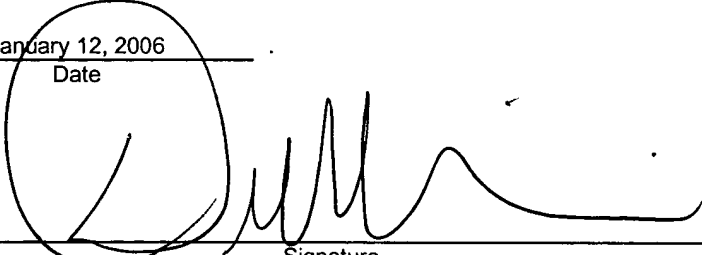
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